Emergency medicine: past, present, and future

John Bache FRCS FFAEM

J R Soc Med 2005;**98**:255–258

Emergency medicine in the UK is at a crossroads. Here I review the story so far and discuss the directions it could take in the future, for better or worse.

FIRST THERE WAS 'CASUALTY'

Both before and after the founding of the National Health Service (NHS) in 1948, the majority of hospitals had a 'casualty department'. This was often located in an uninspiring corner of the hospital and was staffed by casualty officers, usually senior house officers (SHOs) who had been qualified for one or two years. Most of these were hoping to follow a surgical career and six months' experience in casualty was required before they could sit for a surgical fellowship. These casualty officer posts, widely regarded as an unavoidable interlude between the more useful SHO posts in general surgery or a surgical subspecialty, were often combined with an anatomy demonstratorship in a medical school.

Most of the people attending casualty departments had troubles of a surgical nature—lacerations, fractures, sprains, head injuries, and so on. Medical problems such as chest pain and breathlessness were uncommon, because patients with these symptoms tended to call their own general practitioners, requesting a home visit, and those who were admitted went directly to the relevant specialty at their general practitioner's request. Any medical patients presenting directly to casualty were usually given the briefest of examinations by the casualty officer and disposed of with the note 'Medical: refer physicians'.

Senior cover was negligible. Often the most junior consultant orthopaedic surgeon or general surgeon was given nominal responsibility for casualty but, understandably, they had little interest and the casualty officers were very largely left to their own devices, guided by the experienced nursing staff, receptionists, and others. The consultants were absentee landlords.

Such arrangements were clearly a recipe for disaster and, as the NHS matured, it became recognized that they could not continue. Reports were produced including those by Sir Henry Osmond-Clarke in 1961,[1] 1965[2] and 1970,[3] Sir Harry Platt in 1962,[4] Sir John Bruce in 1971[5] and Mr Walpole Lewin in 1978.[6] Platt recommended that 'casualty' should be replaced by 'accident and emergency department'. Bruce's report was particularly instrumental in recommending the introduction of the consultant in accident and emergency (A&E) medicine.

The early history of A&E medicine has been well described by Wilson.[7]

EVOLUTION

Thirty-two consultants in A&E medicine were appointed in 1972. Many of these had already pursued a successful, albeit unconventional, career—for example, medical missionaries who on returning to the UK had been unable to step back onto the conventional career ladder. Some were 'failed' general surgeons or orthopaedic surgeons. The great majority had a surgical rather than medical background.

These pioneers were able to offer both clinical experience and leadership in the evolving specialty of A&E medicine. The experiment was judged a success and more consultant posts were introduced. The SHOs now had support and encouragement, and weekly training sessions were developed.

In 1977, the first senior registrars in A&E medicine were appointed, with the development of formal training programmes, and by the early 1980s posts at this level had been established throughout the UK. Again, most of these senior registrars came from surgical backgrounds, but several were physicians, anaesthetists, or general practitioners, and training programmes had to be tailored to suit their individual requirements. The basic senior registrar training programme was for five years, but previous experience could reduce this. The senior registrars spent most of their time in the A&E department but 25% of their training was spent on secondment, according to previous experience. There were five essential secondments—medicine with cardiology, orthopaedic surgery, surgery in general, paediatrics, and anaesthesia.

Thus by the mid or late 1980s, most hospitals had an A&E department under the managerial control of one or two consultants in A&E medicine. Regional training schemes had been established so that senior registrars could supplement the consultant numbers. Although initially regarded as a second-best option by the more blinkered physicians and surgeons, the specialty was increasingly

Emergency Department, Leighton Hospital, Crewe CW1 4QJ, UK

E-mail: John.Bache@mcht.nhs.uk

recognized and respected. Many of the young and enthusiastic consultants provided good role models for their junior colleagues.

In 1988 a working party chaired by Sir Miles Irving produced a report entitled 'The management of patients with major injuries'.[8] This report followed a study by Anderson *et al*.[9] which suggested that many patients with major trauma were dying unnecessarily, and coincided with the introduction from the USA of the advanced trauma life support (ATLS) course. The Department of Health funded a trial to compare the management of major trauma in district general hospitals with its management in 'trauma systems'.[10] These various factors, combined with the surgical background of many consultants in A&E medicine, resulted in a shift of interest towards major trauma.

During the 1980s and 1990s, journals were established, an examination structure was developed, academic posts were created in A&E medicine, and the number of consultant posts and senior registrar posts continued to increase. The specialty achieved a specific milestone in 1993 with the establishment of the Faculty of Accident and Emergency Medicine. An 'exit' examination (Fellowship of the Faculty of Accident and Emergency Medicine) was introduced in 1996.

Another development during the 1990s was the introduction of emergency nurse practitioners. This was initially resisted in some quarters but in fact proved very successful and most departments now operate an emergency nurse practitioner service.

During the 1990s, the registrar and senior registrar grades were amalgamated in all specialties into a unified specialist registrar grade.[11] Physicians tended to gain 'dual accreditation' in general (internal) medicine and in their specialty (e.g. cardiology, gastroenterology). Medical trainees often wished to gain particular experience in their 'ology' at the expense of general medicine, and it gradually became apparent that the general physician would eventually achieve the status of the dodo. Over the same period, the Government was repeatedly embarrassed by media reports of long waits by patients in A&E departments throughout the country.

Thus, just as in the late 1980s various factors combined to necessitate an increased interest in the management of major trauma, so by the late 1990s it was becoming apparent that many patients received a raw deal in the A&E department. This was especially true of medical patients, and those with drug overdoses and elderly persons unable to cope at home and lacking the support they had previously received from their general practitioners. These patients often spent a long time on trolleys in the A&E department. They were passed from ologist to ologist but their actual progress was unacceptably slow. Sir George Alberti, until recently President of the Royal College of Physicians of London, was appointed 'Government Tsar' to improve the provision of A&E services in the UK.

THE PRESENT STATE

Alberti soon realized that no government target, rational or irrational, could be achieved by changes in the way that the A&E department functioned without changes in the rest of the hospital and, indeed, in the entire health community. For example, bed blockage, a major issue, was outside the direct control of the A&E department. It could be addressed by reducing the number of admissions and/or speeding up the rate of discharge and/or increasing the number of beds. Improved discharge rates depended largely upon improved facilities in the community. Each solution generated further problems.

A&E medicine is changing more rapidly today than at any time in the past. Even nomenclature is changing, and we have now moved from 'A&E medicine' to 'emergency medicine'. Yet the bread and butter of the specialty does not change, in all its variety—sprains and haematomas, fractures and hand injuries, psychiatric disorders, medical emergencies such as asthma, epilepsy and myocardial infarction, as well as the vaguer diagnoses such as 'collapse' and 'off legs'. Drunks and violent patients continue to cause major disruption.

Whereas patients would once have been treated by casualty officers (SHOs), they may now be treated by senior medical staff or emergency nurse practitioners. Most departments employ nurses who are trained to diagnose minor injuries, to suture, and to prescribe from a limited formulary. Trolley waits remain a major issue, despite numerous initiatives. Among the contributing factors are the increasing proportion of elderly people in the population, poorer support from family and neighbours, reduced access to general practitioners, reduced numbers of medical beds, and a lower threshold for admission on the part of patients and relatives as well as medical staff, who are increasingly apprehensive of litigation and complaints.

The increased number of medical disorders seen, in conjunction with the growing reluctance of specialist physicians ('ologists') to take responsibility for non-specific presentations such as 'collapse', has led many hospitals to explore the possibility of introducing 'acute physicians' or 'emergency physicians'. The Royal College of Physicians is encouraging such developments. Furthermore, conditions that would previously have been directed to the physicians are now being dealt with in the emergency department, examples being possible deep venous thrombosis (DVT), and undiagnosed chest pain.

The introduction of the European Working Time Directive (EWTD) has reduced the hours that can be worked without a break, and the need to employ

middle-grade cover throughout the night, has meant a large change in working patterns. The demand by the General Medical Council and postgraduate deans for greater formalization and documentation of training has generated a dramatic increase in bureaucracy. Guidelines and protocols emerge at an ever increasing rate—for example, for chest pain, fractured neck of femur, asthma. The clinical situation is thus in a state of flux but there is also a perverse obsession with the Government's target of a maximum of four hours' wait in the A&E department. This target—who thought of it?—has generated a whole industry of conferences, administrators, and bureaucrats. There is a 'carrot and stick' philosophy: departments achieving good figures are rewarded with financial incentives, while those failing to achieve targets are threatened in various mysterious ways.

It appears that at present A&E departments are unduly influenced by extrinsic factors, particularly political targets, but also by increased specialization of physicians, fear of litigation, greater patient expectations, the introduction of the EWTD, insufficient beds, and insufficient support in the community (including general practitioners).

WHICH WAY NOW?

Within five years, emergency medicine in the UK will have changed radically. The emergency department will either be the focal point of all non-elective work in the hospital or the repository for all the problems that do not interest general practitioners, other consultants, or outside agencies. At present it could go either way, and the specialty is at risk of losing its direction. The 'nightmare scenario' is that the A&E department resumes its previous role as the dumping ground of the NHS and of society in general. To avoid this full circle, the first step is to define the role of emergency medicine. A few years ago, the term 'inappropriate attender' became politically incorrect. We were encouraged to believe that the inappropriateness lay not with the attender but with the service's response to the attender. Whereas a patient presenting to the A&E department with, say, a bad back, a chronic rash, or mild depression would once have been referred directly back to their general practitioner, this became unacceptable. The A&E department is thus at great risk of becoming the 'default mechanism' of the NHS. If an agency cannot cope—be it the general practitioner, social services, NHS Direct, a nursing home, relatives, friends, or the police—the patient is often taken to the A&E department, for no logical reason.

Take, for example, DVT. Why have so many A&E departments assumed responsibility for the diagnosis and initial management of this condition? It cannot really be regarded as an emergency (or an accident for that matter). But certain diagnostic tests are required, which are not generally available in general practice. The physicians do not seem to be particularly interested in DVT. Therefore, by default, it is now often diagnosed and managed in the A&E department. Similarly, A&E departments are being encouraged to prescribe the 'morning-after pill' (emergency contraception). Why? General practitioners are often not readily available. There is a certain amount of urgency, and so, again by default, the problem is dumped on the A&E department.

In their attempt to be all things to all men, and to be seen as the virtuous helpers of all their colleagues, A&E consultants are pursuing a course which is diametrically opposite to that of all other specialties in the NHS. Every other specialist is becoming increasingly specialized, whereas A&E practitioners are becoming increasingly diverse. How does this fit in with the General Medical Council's requirement that all practitioners must keep up to date? Increasing specialization means that other practitioners need to know more and more about less and less, whereas A&E specialists are expected to know more and more about more and more.

Consider, for example, the consultant in A&E medicine whose initial training was surgical. He has expanded his knowledge to cope with the medical disorders he is likely to encounter. However, to expect him to learn the finer details of the management of, for example, chronic obstructive pulmonary disease has no more logic than expecting a respiratory physician to begin performing pneumonectomies.

A&E specialists need to define their responsibilities and ensure that they can deliver those services to the highest standards, which will require adequate resources. They also need to establish what services they will not provide, remembering their obligation to keep up to date in their practice. Do all A&E consultants need to provide the same range of services? Should some subspecialize within A&E medicine—an obvious example being paediatric A&E medicine?

Such decisions will inevitably be related to resources. Clearly, increased clinical responsibilities will demand increased resources, particularly in terms of manpower. It is equally obvious that, throughout the NHS, promised resources frequently fail to materialize. A&E specialists who accept increased responsibilities without the necessary resources will receive little sympathy when their services are found to be inadequate.

The A&E department undoubtedly has a major impact on the functioning of the whole hospital and, indeed, the whole health community and NHS. A hospital without an A&E department is a very different entity from a hospital with an A&E department. The A&E department disrupts the smooth running of the elective work of the hospital.

Change in the delivery of emergency care will inevitably impact upon the whole health community.[12]

The solution may be to establish the A&E department as the focal point of all non-elective work in the hospital. This depends upon defining elective and non-elective work, and ensuring adequate resources to assume this responsibility. Elective is probably easier to define than non-elective; therefore non-elective work should simply be regarded as any work which is not elective. The A&E specialist would take responsibility for the initial management of all non-elective work. Patients seen electively would not be in the A&E department at any time.

An essential element of this solution would be the right of A&E specialists to admit patients to the hospital as they see fit. It is quite illogical for a senior A&E specialist to ask a junior doctor's permission to admit a patient who clearly requires admission for either diagnosis or management. Because the numbers of patients passing through the A&E department are increasing all the time, the departments will need greater staffing and space as well as good facilities for imaging, haematology and so on. This 'focal point for non-elective work' would require a change in philosophy throughout the hospital. The A&E department would, in effect, be the controlling specialty of the organization.

Another way in which A&E medicine might evolve would be the complete abandonment of the specialty—an acknowledgment that Sir John Bruce's experiment has ultimately failed. After all, few countries have the equivalent of the specialty of emergency medicine. If a patient has had a myocardial infarct, should he be managed by a cardiologist from the beginning, rather than via an A&E specialist? Should a child with meningitis be dealt with by the paediatricians *de novo*? Should a schizophrenic patient be seen by a psychiatrist from the start? Clearly such solutions would now be difficult to achieve because of staffing levels within the specialties. But as the UK trains more doctors, will this brave new specialty of emergency medicine become obsolete?

In the words of Sir Winston Churchill, 'The future is unknowable, but the past should give us hope'.

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